

Response to Office Action mailed October 30, 2007
U.S. Application No. 10/628,214

REMARKS

Claims Rejections - 35 USC Section 102(e)

Claims 1, 4, 5, 8-10, 13, 14, 17, 19, 21-23, and 26 were rejected under 35 USC 102(e) as anticipated over US Patent No. 6,536,530 ("Schultz"). In the same manner as the previous office action, Schultz was cited for a system having two valves operating over a designated pressure interval to independently actuate a sequenced set of events by one or more downhole tools based on the application of fluid pressure to the valves. However, this rejection is now based on the combination of two separate valves 56 in the separate well tool assemblies 12, 14, 16, and 18 (instead of an assembly valve pair 54, 56). Applicants respectfully traverse because Schultz does not teach independent actuation of a sequenced set of events based on an application of pressure to the two or more valves; rather, Schultz merely accomplishes one downhole event for each application of fluid pressure; i.e., Schultz has only one tool event --a pump stroke--from an actuation of pressure (plus other activity, see below).

The Office Action refers to Schultz at column 3, lines 60-64 as a disclosure of a sequenced set of events responsive to a fluid pressure application. However, that excerpt merely describes the fluid flow applicable to each of the sets of valves associated with each of zones 26, 28, 30, and 32. A sequenced set of events by a downhole tool (or more than one tool) is not accomplished. Rather, application of fluid pressure to any pair of valves described by Schultz can only be achieved by two, separate operator interventions for each of the two valves in the separate zones selected in the rejection; each resulting in only one event --a pump stroke.

The present invention is disclosed to result in a sequenced set of events such as is given in the specification at paragraphs [0021] and [0035], all from an application of pressure to one set of two or more valves.

The difference in Schultz and the present invention is understandable because the system of Schultz is designed for *completion* operations whereas, the present

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invention, while being possible for completion operations, was originally designed for *intervention* operations.

In the system of Schultz, the operator must decide what operation is to be accomplished, decide which set of valves controls that single event, and apply the appropriate pressure range to actuate the appropriate valves. Thereafter, the operator must increase the pressure on Schultz's line 44 or 46 to move the pump piston 72 in one direction, switch pressure lines and repeat, etc....

In the present invention, a "smart" operator is not required. Where a well needs intervention, the system is installed downhole and the operator merely brings the system up to pressure. All of the sequenced set of events occur from the single application of pressure to the valves of the inventive system. Thus, when the operator applies pressure to the deployed downhole system, the sequence of events follows: e.g., perforation, positioning and sealing of the packer, pumping of treating fluid, and repeating as programmed by the fluid system -- all from one actuation of fluid pressure to the at least two valves.

Although the Examiner correctly pointed out various sections of Schultz that disclose individual valves and features of claims 4 and 8, actuation of a sequenced set of events based on an application of fluid pressure to system valves is not disclosed in the reference. Similarly, with respect to claims 9, 10, 22, and 23, although Schultz discloses a feature which causes flow to cease through a valve based on predefined pressure, there is still no disclosure of a resulting sequence of events from downhole tools based on an application of pressure to the valves. Finally, with respect to claims 13, 14, and 26, although Schultz discloses limited flow features, a resulting sequence of events is not disclosed. Reconsideration and withdrawal of the 35 USC Section 102 rejection is respectfully requested.

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Claims Rejections - 35 USC Section 103(a)

Claims 2, 3, and 18 were rejected over Schultz alone; claims 6, 7, and 20 were rejected over Schultz in combination with Marangoni et al (US Patent No. 6,619,392); similarly claims 11 and 24 were rejected over Schultz in combination with Stone (US Patent No. 4,266,606); claims 12 and 25 were rejected over Schultz in combination with Patel (US Patent No. 6,293,346); and claims 15 and 16 were rejected over Rytlewski et al (US Patent No. 5,704,426) in view of Schultz; in each case now based on the two valves 56 in separate assemblies. The rejections correctly point out features of cartridge valves, electrical device operation, hydraulic fluids and screens, burst disks, and various intervention steps; however, none of the references teaches or suggests independent actuation of a sequenced set of events by downhole tools, based on fluid pressure application to valves of the system. Even if the cited combinations were made, there would still be no skilled artisan motivation from the references to operate multiple downhole tool steps from a single pressure application. See Schultz at column 3, lines 53-55 regarding operation of the control unit 40 indicating the requirement of separate pressure applications for each tool event or task. See also Schultz at column 6, lines 59-62 and column 6, line 66 to column 7, line 5 wherein Schulz cautions operators not to excessively increase or decrease pressure on line 46 so as to avoid changing assemblies with the selection devices.

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Reconsideration, withdrawal of the obviousness rejection, and allowance of the claims is respectfully requested.

Respectfully submitted,


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